

Dock (Geo)

[From the MEDICAL AND SURGICAL REPORTER,  
December 21, 1889.]

---

ANEURISM OF THE AORTA SIMU-  
LATING CARDIAC VALVULAR  
DISEASE.

—  
BY GEORGE DOCK, M. D.,

PROFESSOR OF PATHOLOGY, ETC., IN THE TEXAS  
MEDICAL SCHOOL AND HOSPITAL.

---

Aneurism in the beginning of the aorta, although rare, presents as a rule such a peculiar train of symptoms, that the narration even of isolated cases is not without value. In the present case, a slight variation from the usual site affected has given rise to a group of symptoms closely resembling those of a much more common class of diseases. While engaged with a ward class one day, I was so attracted by the appearance of a man just admitted as to make him the subject of immediate study before the class. The patient supported himself in an arm-chair; his countenance and attitude expressed intense drowsiness and exhaustion. His skin was cyanotic, the cervical veins dilated and pulsating, and his respirations frequent and shallow. His hands and face were puffy, and unbuttoned shoes revealed the thick ankles. The whole appearance, in short,

indicated advanced cardiac insufficiency. The history then obtained was as follows :

M. N., 45 years old, barkeeper, born in France. There is no history or evidence of syphilitic infection. He denies alcoholic excesses. The patient gives a history of unimpaired health up to four months before admission, when he began to cough, to feel short of breath, and to lose in weight. Soon after, his ankles began to swell. He was treated for phthisis, but later his physician told him his heart was affected, and prescribed digitalis. Growing worse in every way he came to St. Mary's Infirmary in Galveston.

The patient is of medium size, heavily built, and moderately emaciated. The skin is flabby, cyanotic, and slightly icteric, as are also the visible mucous membranes. Extreme anasarca exists, less marked in upper limbs and head. The thorax is well formed. The apex beat of the heart in sixth intercostal space in nipple line is exaggerated. There is a visible thrill all over the cardiac area, which is limited entirely to the diastole. The cardiac dulness begins above the fourth rib ; extends to right edge of sternum and to nipple line. On auscultation a double murmur is heard. The first, synchronous with the apex beat, is loud, harsh, and rasping. It is heard equally well over apex, base, and aortic cartilage, and is also audible in the axilla and in the back. It is ap-

parently the same murmur heard in the places named. Following this immediately, is another murmur, blowing, long and moderately loud, best heard above apex, but audible all over the heart area. It is synchronous with the thrill. The second sound at the aortic cartilage is present, though masked by the murmur. The pulmonary second sound is not markedly accentuated. The systolic murmur can be heard in the neck, though faintly. The radial pulse is 105, and quick, but of good tension. On the right side the pulmonary resonance ends in dulness in the fourth interspace in the nipple line, movable according to position; on the left in the seventh intercostal space in the axilla. Respiration shallow, accompanied by numerous loose râles, especially on the right side. The liver dulness extends two inches beyond the costal margin. The abdomen is somewhat distended, but no fluid can be detected in it. The tongue is flabby and thinly coated; there is loss of appetite, constipation, and a dull frontal headache; also scanty expectoration of frothy mucus. For several days shortness of breath has been so severe that patient could not lie down. The urine is scanty, and high-colored, specific gravity 1.030, and contains a small amount of albumin, no casts.

The result of this examination was not as satisfactory as I had expected. Though the suspicion of valvular disease seemed con-

firmed, the physical characteristics differed from usual in some particulars. The frequency of the heart beat made it difficult to time the murmurs and thrill, though they seemed to be as given above. The pulse seemed unusually strong, considering the evidences of insufficiency, but its character was attributed to digitalis. The suspicion of aortic disease was abandoned, and notwithstanding certain misgivings, the case was demonstrated repeatedly as one of double mitral disease, and was seen casually by various physicians without leading to any important change of opinion. Digitalis was pressed at first with great benefit. The oedema and cyanosis lessened, the dyspnœa was so slight that the patient could sleep lying down. The thrill became less marked ; the murmurs continuing as before. Very soon, however, the drug seemed to have lost its effect. The dyspnœa again became so severe that aspiration was resorted to, and about a pint of sero-sanguinolent fluid removed from the right pleural cavity. This was of but little benefit, and, with increasing weakness of the circulation, death ensued. At the autopsy an unexpected condition was found. The autopsy notes bearing on the symptoms are as follows :

“ . . . The right pleural cavity contains about twenty ounces of bloody serum and flakes of fibrin. The right lung is compressed, the lower and middle lobes col-

lapsed, and non-crepitant. Their pleura is covered with a thin fibrinous coat; the tissue tough and bloodless at the periphery, but the area around the root infiltrated with blood. In the left pleural cavity there was a small amount of bloody serum, the lung slightly compressed, but crepitant throughout and œdematous. The bronchial mucous membrane is injected and covered with frothy mucus. The pericardium is adherent to the pleura on the left side, and closely adherent to the heart. The heart enlarged and both ventricles dilated. The left ventricle measures 12 cm. in length, its wall 18 mm. at 1 cm. below the ring. The aortic valves are slightly thickened but not retracted; aside from this the valves and endocardium are normal. The muscle shows no gross lesion. All the cavities contain mixed clots. The opened aorta measures 8 cm. at the insertions of the valves. The sinuses are not dilated. Beginning just above the valves is a diffuse dilatation, extending around two-thirds of the circumference of the aorta with the convexity of the vessel as its middle. It is from two to four centimeters wide and bounded above by a thick band which gives the aorta a constricted appearance, though the lumen is not diminished. The surface of the aorta in this part is covered with atheromatous scars and calcareous plates and shows the orifices of two saccular aneurisms. The



first is just above the sinus of the right aortic cusp. Its shape and size are such that it fits the thumb for a distance of two centimeters. It projects to the right of the pulmonary artery, touching the upper part of the right ventricle. It is empty, and its walls are smooth and thin. The second is further to the left, in the concavity of the aorta, just above the common insertion of the posterior and left leaflets of the aortic valve and the left coronary artery. Its orifice measures four by three cm.; the lateral edges are sharp and rigid, the upper border is formed by part of the firm band mentioned above. In the widest part the sac measures six cm.; its depth is five cm. Its wrinkled walls are covered by a thin, white, fibrinous layer, and are marked by a longitudinal ridge in the posterior part, corresponding to the auricular septum. The relations of this aneurism were studied by filling it loosely with wool, opening the auricles and examining the several cavities. On the right side it encroaches on the auricle and the superior vena cava, so that the capacity of the auricle is lessened about one-third and the lumen of the vein reduced to a narrow slit. On the left, the anterior wall of the auricle is bulged back, forming a rounded prominence directly over the mitral valve and causing an actual obstruction. The branches of the pulmonary veins from the lower and middle lobes of the right lung

cross over the tumor and are almost occluded by the displacement so caused." . . . The other organs, especially liver and kidneys, showed the changes common to obstructive disease in the heart. The kidneys in addition showed beginning arterial sclerosis.

The lesions found explain the clinical phenomena so clearly that comment is hardly necessary. In an incomplete search of the literature of aneurisms in the beginning of the aorta I have not been able to find reference to one in the concavity. Their usual seat is in the anterior wall, or still more rarely above the posterior leaflet, with symptoms of obstruction of the pulmonary artery or superior vena cava. The difference of half an inch to the left is enough to produce the mitral symptoms and the obstruction to the pulmonary circulation, and indirectly the systemic symptoms. The larger aneurism was so placed as to allow considerable expansion without rupture into a neighboring cavity or vessel, for notwithstanding its size, the walls are strong. Although the absolute rarity of such a lesion may bring the conclusion that it is of little practical value, yet it conveys an important lesson in the value of minute examination even when the condition seems plain, and furnishes a remarkably good example of the simulation of disease.

